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# NOTICE OF ALLOWANCE AND FEE(S) DUE

27765

7590

12/24/2008

05/28/2004

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116

**EXAMINER** HOLLIDAY, JAIME MICHELE ART UNIT PAPER NUMBER

2617

DATE MAILED: 12/24/2008

ASTP0039USA

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.

10/709,789 Sam Shiaw-Shiang Jiang 3788 TITLE OF INVENTION: METHOD AND APPARATUS OF CONTROLLING A RESET PROCEDURE IN A WIRELESS COMMUNICATION SYSTEM

PUBLICATION FEE DUE PREV. PAID ISSUE FEE APPLN. TYPE SMALL ENTITY ISSUE FEE DUE TOTAL FEE(S) DUE DATE DUE nonprovisional YES \$755 \$300 \$0 \$1055 03/24/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

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							(Signature)
							(Date)
APPLICATION NO.	FILING DATE		FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.		CONFIRMATION NO.
10/709,789	05/28/2004	•	Sam Shiaw-Shiang Jiang			ASTP0039USA	3788
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APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSU	E FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0		\$1055	03/24/2009
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HOLLIDAY, JA	IME MICHELE	2617	370-350000	•			
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☐ Issue Fee			A check is enclosed.		-		
☐ Publication Fee (No small entity discount permitted) ☐ Advance Order - # of Copies			☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any				
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NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			HOLLIDAY, JAIME MICHELE		
			ART UNIT	PAPER NUMBER	
			2617		
			DATE MAILED: 12/24/2008		

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)** 

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 718 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 718 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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PUBLICATION FEE DUE PREV. PAID ISSUE FEE APPLN. TYPE SMALL ENTITY ISSUE FEE DUE TOTAL FEE(S) DUE DATE DUE nonprovisional YES \$755 \$300 \$0 \$1055 03/24/2009

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Application/Control Number: 10/709,789 Page 2

Art Unit: 2617

## Response to Arguments

1. Applicant's arguments, see REMARKS, filed August 26, 2008, with respect to claims 4-7 and 11-14 have been fully considered and are persuasive. The U.S.C. 103 (a) rejection of claims 4-7 and 11-14 has been withdrawn.

## Allowable Subject Matter

- 2. Claims 4-7 and 11-14 are allowed, and are renumbered claims 1-8, respectively.
- 3. The following is an examiner's statement of reasons for allowance:

Consider **claim 4**, the most relevant prior art of record, Yi et al. (US 2003/0007459 A1) in view of Meyer et al. (US 2004/0148546 A1)., fail to specifically disclose that the sender ignores status reports if a RESET ACK PDU has not been received during a reset procedure.

Yi et al., shows and discloses a method of controlling a reset procedure for a radio communication link between a sender and a receiver (a method for re-transmitting data or control information in a radio link control layer relates to determining whether retransmission will be ended by comparing a number of transmission with a critical value when the transmission of data or control information has successively failed [abstract]); the receiver transmitting at least a receiving status report to the sender (sender RLC layer receives the state information with which success of transmission can be judged from the receiver and retransmits the RLC PDU, which requires re-transmission. The

state information including the information of the lost PDU is loaded in the Status PDU and transmitted by the receiver. The Status PDU can be transmitted from the sender to the receiver. The receiver checks the serial numbers of the received RLC PDU and transmits the status PDU including the information of positive acknowledgement or negative acknowledgement to the sender, thus to support the process of retransmission of the sender [paragraphs 24, 25, 27]); the sender receiving at least one receiving status report sent from the receiver, determining that the receiving status report contains protocol error, activating a reset procedure, and transmitting a RESET PDU to the receiver, and recognizing the reset procedure as ongoing before the sender receives a RESET ACK PDU outputted from the receiver (sender sends a reset instruction for instructing reset of the radio link control layer to the receiver, when the number of transmission of the MRW instruction is the same as or larger than MaxMRW which is the critical value as sending of the MRW instruction which is control information is successively failed, and the MRW instruction which was sent right before is turned out to have failed [paragraph 82]).

Meyer et al., shows and disclose controlling the sender to ignore at least a second receiving status report outputted from the receiver when the reset procedure is ongoing, wherein the second receiving status report is received later than the first receiving status report (Messages are sent between the RLC entities of the RLC transmitter TR and the RLC receiver RE. The RLC transmitter TR sends 3 PDUs with sequence numbers SN=1, 2 and 3. The PDU with SN=2 is lost, e.g. due to a disturbance during radio transmission, and does not reach the RLC receiver. By

receiving the PDU with SN=3 the RLC receiver can detect the loss of the PDU with sequence number 2 if a transmission in the order of increasing sequence numbers is performed. The loss triggers a transmission of a first status report or status message S<sub>11</sub>, which requests a retransmission of the PDU with SN=2. In the first status report S<sub>11</sub>, the sequence number 3 is acknowledged (ACK=3) while sequence number 2 is reported as missing (NACK=2). Upon receiving the first status report S<sub>11</sub>, the RLC transmitter retransmits the PDU with SN=2. The transmitter TR stores in a memory that sequence number SN=2 corresponds to a retransmission prohibit timer RPT1. The PDU with SN=2 is included in the second status report S<sub>12</sub> since the receiver has not yet received it and is unaware that a retransmission is already on the way. In reply to the second status report S<sub>12</sub> with the retransmission request for SN=2 and 4, the RLC transmitter only retransmits the PDU with SN=4. For sequence number SN=2 a check of the memory has the result that the first retransmission prohibit timer RPT1 is running for SN=2. The expiry threshold for this timer is not yet reached. Therefore, the PDU with SN=2 is not selected for retransmission [abstract, paragraphs 50-58], wherein if the second status report only has SN=2, it would be inherent that the transmitter would check its memory, recognize that a retransmission of this particular PDU has occurred, and disregard the entire report.)

Yi et al. and Meyer et al., however, lack the claimed limitation "controlling the sender to ignore at least a second receiving status report outputted from the receiver when the sender has not received a RESET ACK PDU from the receiver and the rest procedure is ongoing," therefore this limitation, in conjunction with other limitations

recited in claim 4, is novel and unobvious in view of the combination of Yi et al. and Meyer et al.

Consider **claim 11**, the most relevant prior art of record, Yi et al. (US 2003/0007459 A1) in view of Meyer et al. (US 2004/0148546 A1)., fail to specifically disclose that the sender ignores status reports if a RESET ACK PDU has not been received during a reset procedure.

Yi et al., shows and disclose a sender in wireless communication with a receiver for receiving at least a first receiving status report sent from the receiver, the sender (sender RLC layer receives the state information with which success of transmission can be judged from the receiver and retransmits the RLC PDU, which requires retransmission. The state information including the information of the lost PDU is loaded in the Status PDU and transmitted by the receiver) comprising: a communication interface for activating a reset procedure and transmitting a RESET PDU to the receiver when determining that the first receiving status report contains protocol error; and a decision logic electrically connected to the communication interface for recognizing the reset procedure as ongoing before the communication interface receives a RESET ACK PDU outputted from the receiver (Status PDU can be transmitted from the sender to the receiver. For example, if the serial numbers of the received RLC PDU are #23, #24, #25, #32 and #34, the RLC PDUs having the serial numbers of #26 to #31 and #33 are presumed to be lost. The receiver checks the serial numbers of the received RLC PDU and transmits the status PDU including the information of positive acknowledgement or negative acknowledgement to the sender, thus to support the process of re-

transmission of the sender. The sender sends a reset instruction for instructing reset of the radio link control layer to the receiver, when the number of transmission of the MRW instruction is the same as or larger than MaxMRW which is the critical value as sending of the MRW instruction which is control information is successively failed, and the MRW instruction which was sent right before is turned out to have failed [abstract, paragraphs 24, 25, 27, 82]).

Meyer et al. clearly show and disclose wherein the decision logic controls the communication interface to ignore at least a second receiving status report outputted from the receiver when the reset procedure is ongoing; wherein the second receiving status report is received later than the first receiving status report (Messages are sent between the RLC entities of the RLC transmitter TR and the RLC receiver RE. The RLC transmitter TR sends 3 PDUs with sequence numbers SN=1, 2 and 3. The PDU with SN=2 is lost, e.g. due to a disturbance during radio transmission, and does not reach the RLC receiver. By receiving the PDU with SN=3 the RLC receiver can detect the loss of the PDU with sequence number 2 if a transmission in the order of increasing sequence numbers is performed. The loss triggers a transmission of a first status report or status message S<sub>11</sub>, which requests a retransmission of the PDU with SN=2. In the first status report S<sub>11</sub>, the sequence number 3 is acknowledged (ACK=3) while sequence number 2 is reported as missing (NACK=2). Upon receiving the first status report S<sub>11</sub>, the RLC transmitter retransmits the PDU with SN=2. The transmitter TR stores in a memory that sequence number SN=2 corresponds to a retransmission prohibit timer RPT1. The PDU with SN=2 is included in the second status report S<sub>12</sub>

since the receiver has not yet received it and is unaware that a retransmission is already on the way. In reply to the second status report  $S_{12}$  with the retransmission request for SN=2 and 4, the RLC transmitter only retransmits the PDU with SN=4. For sequence number SN=2 a check of the memory has the result that the first retransmission prohibit timer RPT1 is running for SN=2. The expiry threshold for this timer is not yet reached. Therefore, the PDU with SN=2 is not selected for retransmission [abstract, paragraphs 50-58], wherein if the second status report only has SN=2, it would be inherent that the transmitter would check its memory, recognize that a retransmission of this particular PDU has occurred, and disregard the entire report.)

Yi et al. and Meyer et al., however, lack the claimed limitation "decision logic controls the communication interface to ignore at least a second receiving status report outputted from the receiver when the sender has not received a RESET ACK PDU from the receiver and the rest procedure is ongoing," therefore this limitation, in conjunction with other limitations recited in claim 11, is novel and unobvious in view of the combination of Yi et al. and Meyer et al.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAIME M. HOLLIDAY whose telephone number is (571)272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Jaime M Holliday/ Examiner, Art Unit 2617

/Charles N. Appiah/ Supervisory Patent Examiner, Art Unit 2617